REMARKS

Claims 1-29 are currently pending in the application. Claims 1, 3-5, and 7-16 have been amended. New claims 17-29 have been added. Applicant respectfully submits that no new matter has been added. Applicant respectfully requests reconsideration of the application in view of the foregoing amendments and the following remarks.

Claims 5-7 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and claim the subject matter which Applicant regards as the invention. More specifically, the Office Action asserts that claim 5 has insufficient antecedent basis. In response, Applicant has amended claim 5 to overcome the § 112 rejection.

Claims 1-16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,671,256 to Xiong et al. ("Xiong") in view of U.S. Patent No. 6,741,572 to Graves et al. ("Graves").

Independent claim 1 relates to a method for establishing lightpaths within an optical ring network. Applicant respectfully submits that the cited combination of Xiong and Graves fails to teach, suggest, or render obvious at least one of the distinguishing features of independent claim 1, namely, circulating a plurality of tokens on the optical ring network, the plurality of tokens comprising a token associated with a wavelength, wherein the token is adapted to indicate available resource and space on the wavelength and broadcast availability information across the optical ring network. In addition, the cited combination of Xiong and Graves fails to teach, suggest, or render obvious selecting a lightpath request based upon the availability information and establishing, responsive to selection of the request, the lightpath between a source node and a destination node.

Xiong discloses reserving a data channel along an optical path in an optical burst-switched network by first transmitting a data channel reservation request from an electronic ingress edge router to a reservation termination node. Next, the data channel reservation request is processed to all nodes along a path. A data channel reservation acknowledgement is then transmitted from the reservation termination node to the electronic ingress edge router.

However, if no unreserved outbound data channel is found, a negative acknowledgement message is transmitted to the electronic ingress edge router.

Graves discloses a communication network comprising a plurality of interconnected nodes. A Contract Manager CM 25 C at node C determines that a spare wavelength channel extending from node C to node D is available and temporarily reserves that spare wavelength channel. The CM 25 C at node C then sends a wavelength channel request message s2 to the CM 25 D at node D, specifying the source node (i.e. node C) the other intermediate nodes in the path (i.e. node E) and the destination node (i.e. node A). On receipt of the wavelength channel request message s2, the CM 25 D at node D determines whether ALS 30D at node D has a spare wavelength channel from node D to node C and a spare wavelength channel from node D to node E. If the ALS 30D has both required spare wavelength channels, the CM 25 D at node D temporarily reserves both spare channels and sends an acknowledgement message s4 back to the CM 25 C. This process is continued between all the intermediate nodes.

In contrast to claim 1, there is no teaching or suggestion by the cited combination of Xiong and Graves of circulating on an optical ring network, a plurality of tokens, the plurality of tokens comprising a token associated with a wavelength wherein the token is adapted to indicate available resource and space on the wavelength and broadcast availability information across the optical ring network. In addition, there is no teaching or suggestion by the cited combination of Xiong and Graves of selecting a lightpath request based upon the availability information and establishing, responsive to selection of the request, the lightpath between a source node and a destination node. In Xiong, the electronic ingress edge router (source node) is unaware of a network status when a reservation request is issued. More particularly, the electronic ingress edge router appears to have limited knowledge of available resources in the network. In Xiong, the reservation request issued by the electronic ingress edge router is not based upon the availability information as claimed. In Graves, a message is transmitted between a source node and a destination and a plurality of intermediate nodes in-between for reserving channels. For example, according to Graves, node C sends a wavelength channel request message s2 to node D. On receipt of the wavelength channel request message s2, node D determines whether node D has a spare wavelength channel from node D to node C and a spare wavelength channel from node D to node E. If node D has both required spare wavelength channels, node D temporarily reserves both spare channels and sends an acknowledgement message s4 back to node C. This

process is continued between all the intermediate nodes. This is in contrast to the invention of claim 1, according to which a lightpath between a source node and a destination node is established using availability information from a token. Applicant respectfully submits that independent claim 1 distinguishes over the cited combination of Xiong and Graves and respectfully requests that the rejection thereof be withdrawn.

Dependent claims 2-4 and 17-20 depend from and further restrict independent claim 1 in a patentable sense. Applicant respectfully submits that, for at least the reasons set forth above with respect to the rejection of independent claim 1, dependent claims 2-4 and 17-20 also distinguish over the cited combination of Xiong and Graves and are in condition for allowance.

In addition, Applicant respectfully submits that the cited combination of Xiong and Graves fails to teach, suggest, or render obvious at least one of the distinguishing features of dependent claim 20, namely, wherein a token bearing availability information related to an available space within a wavelength achieves a tell-and-go reservation mechanism adapted to transmit data packets immediately after the wavelength has been reserved and without awaiting acknowledgements. In Xiong, a reservation request issued by an electronic ingress edge router is not based upon availability information as claimed. Graves fails to teach a tell-and-go reservation mechanism as claimed in claim 20. Graves requires an acknowledgement message s4 to be sent back to a node requesting a wavelength channel to be reserved. For this additional reason, dependent claim 20 distinguishes over the cited combination of Xiong and Graves and is in condition for allowance.

Independent claim 5 is directed to a method for establishing lightpaths within an optical ring network. Applicant respectfully submits that Xiong fails to teach or suggest at least one of the distinguishing features of independent claim 5, namely, circulating on the optical ring network, a plurality of tokens, the plurality of tokens comprising a token associated with a wavelength and wherein the token is adapted to bear availability information related to the available space within the wavelength and broadcast the availability information across the optical ring network. In addition, the cited combination of Xiong and Graves fails to teach, suggest, or render obvious establishing the lightpath between the source node and the destination node.

In contrast to claim 5, in Xiong, the electronic ingress edge router (source node) is unaware of a network status when a reservation request is issued. More particularly, the electronic ingress edge router appears to have limited knowledge of available resources in the network. In Xiong, the reservation request issued by the electronic ingress edge router is not based upon the availability information as claimed. In Graves, a message is transmitted between a source node and a destination and a plurality of intermediate nodes in-between for reserving channels. For example, according to Graves, node C sends a wavelength channel request message s2 to node D. On receipt of the wavelength channel request message s2, node D determines whether node D has a spare wavelength channel from node D to node C and a spare wavelength channel from node D to node E. If node D has both required spare wavelength channels, node D temporarily reserves both spare channels and sends an acknowledgement message s4 back to node C. This process is continued between all the intermediate nodes. This is in contrast to the invention of claim 5, according to which a lightpath between a source node and a destination node is established using availability information from a token. Applicant respectfully submits that independent claim 5 distinguishes over the cited combination of Xiong and Graves and respectfully requests that the rejection thereof be withdrawn.

Dependent claims 6-7 and 21-23 depend from and further restrict independent claim 5 in a patentable sense. Applicant respectfully submits that, for at least the reasons set forth above with respect to the rejection of independent claim 5, dependent claims 6-7 and 21-23 also distinguish over the cited combination of Xiong and Graves and are in condition for allowance.

In addition, Applicant respectfully submits that the cited combination of Xiong and Graves fails to teach, suggest, or render obvious at least one of the distinguishing features of dependent claim 23, namely, wherein a token bearing resource availability information related to an available space within a wavelength achieves a tell-and-go reservation mechanism adapted to transmit data packets immediately after the wavelength has been reserved and without awaiting acknowledgements. In Xiong, a reservation request issued by an electronic ingress edge router is not based upon availability information as claimed. Graves fails to teach a tell-and-go reservation mechanism as claimed in claim 23. Graves requires an acknowledgement message s4 to be sent back to a node requesting a wavelength channel to be reserved. For this additional reason, dependent claim 23 distinguishes over the cited combination of Xiong and Graves and is in condition for allowance.

Independent claim 8 is directed to optical ring network. Applicant respectfully submits that the cited combination of Xiong and Graves fails to teach, suggest, or render obvious at least one of the distinguishing features of independent claim 8, namely, a plurality of tokens adapted to continuously circulate on the optical ring network, the plurality of tokens comprising a token associated with a wavelength, the token indicating availability of the associated wavelength for supporting a lightpath and broadcasts the availability across the optical ring network. In addition, the cited combination of Xiong and Graves fails to teach, suggest, or render obvious establishing, responsive to selection of a request, the lightpath between a source node and a destination node.

In contrast to claim 8, in Xiong, the electronic ingress edge router (source node) is unaware of a network status when a reservation request is issued. More particularly, the electronic ingress edge router appears to have limited knowledge of available resources in the network. In Xiong, the reservation request issued by the electronic ingress edge router is not based upon the availability information as claimed. In Graves, a message is transmitted between a source node and a destination and a plurality of intermediate nodes in-between for reserving channels. For example, according to Graves, node C sends a wavelength channel request message s2 to node D. On receipt of the wavelength channel request message s2, node D determines whether node D has a spare wavelength channel from node D to node C and a spare wavelength channel from node D to node E. If node D has both required spare wavelength channels, node D temporarily reserves both spare channels and sends an acknowledgement message s4 back to node C. This process is continued between all the intermediate nodes. This is in contrast to the invention of claim 8, according to which a lightpath between a source node and a destination node is established using availability information from a token. Applicant respectfully submits that independent claim 8 distinguishes over the cited combination of Xiong and Graves and respectfully requests that the rejection thereof be withdrawn.

Dependent claims 9-12 and 24-26 depend from and further restrict independent claim 8 in a patentable sense. Applicant respectfully submits that, for at least the reasons set forth above with respect to the rejection of independent claim 8, dependent claims 9-12 and 24-26 also distinguish over the cited combination of Xiong and Graves and are in condition for allowance.

In addition, Applicant respectfully submits that the cited combination of Xiong and Graves fails to teach, suggest, or render obvious at least one of the distinguishing features of dependent claim 26, namely, wherein a token bearing availability information related to the available space within the wavelength achieves a tell-and-go reservation mechanism adapted to transmit data packets immediately after the wavelength has been reserved and without awaiting acknowledgements. In Xiong, a reservation request issued by an electronic ingress edge router is not based upon availability information as claimed in claim 26. Graves fails to teach a tell-and-go reservation mechanism as claimed in claim 26. Graves requires an acknowledgement message s4 to be sent back to a node requesting a wavelength channel to be reserved. For this additional reason, dependent claim 26 distinguishes over the cited combination of Xiong and Graves and is in condition for allowance.

Independent claim 13 relates to a node within an optical communication ring network. Applicant respectfully submits that the cited combination of Xiong and Graves fails to teach, suggest, or render obvious at least one of the distinguishing features of independent claim 13, namely, a controller configured to receive a token from a receiver indicating an available space within a wavelength, wherein the token is adapted to bear availability information related to the available space within the wavelength and broadcast the availability information across the optical communication ring network. In addition, the cited combination of Xiong and Graves fails to teach, suggest, or render obvious wherein the controller is further configured to establish, responsive to selection of a request, the lightpath between a node and a destination node using a transmitter.

In contrast to claim 13, in Xiong, the electronic ingress edge router (source node) is unaware of a network status when a reservation request is issued. More particularly, the electronic ingress edge router appears to have limited knowledge of available resources in the network. In Xiong, the reservation request issued by the electronic ingress edge router is not based upon the availability information as claimed. In Graves, a message is transmitted between a source node and a destination and a plurality of intermediate nodes in-between for reserving channels. For example, according to Graves, node C sends a wavelength channel request message s2 to node D. On receipt of the wavelength channel request message s2, node D determines whether node D has a spare wavelength channel from node D to node C and a spare wavelength channel from node D to node E. If node D has both required spare wavelength

channels, node D temporarily reserves both spare channels and sends an acknowledgement message s4 back to node C. This process is continued between all the intermediate nodes. This is in contrast to the invention of claim 13, according to which a lightpath between a source node and a destination node is established using availability information from a token. Applicant respectfully submits that independent claim 13 distinguishes over the cited combination of Xiong and Graves and respectfully requests that the rejection thereof be withdrawn.

Dependent claims 14-16 and 27-29 depend from and further restrict independent claim 13 in a patentable sense. Applicant respectfully submits that, for at least the reasons set forth above with respect to the rejection of independent claim 13, dependent claims 14-16 and 27-29 also distinguish over the cited combination of Xiong and Graves and are in condition for allowance.

In addition, Applicant respectfully submits that the cited combination of Xiong and Graves fails to teach, suggest, or render obvious at least one of the distinguishing features of dependent claim 29, namely, wherein a token indicating an available space within a wavelength achieves a tell-and-go reservation mechanism adapted to transmit data packets immediately after the wavelength has been reserved and without awaiting acknowledgements. In Xiong, a reservation request issued by an electronic ingress edge router is not based upon availability information as claimed in claim 29. Graves fails to teach a tell-and-go reservation mechanism as claimed. Graves requires an acknowledgement message s4 to be sent back to a node requesting a wavelength channel to be reserved. For this additional reason, dependent claim 29 distinguishes over the cited combination of Xiong and Graves and is in condition for allowance.

In view of the above amendment, Applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

By _____

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